

WHAT IS CLAIMED IS:

1. A valve port system for providing vascular access in a patient through a subcutaneous fluid flow conduit during a dialysis procedure, comprising:
 - 5 an extractable engagement member defined by a tubular body having a proximal end, a distal end and a tubular lumen therebetween, said distal end having a tapered bevel defining an opening thereat and a tapered protrusion proximate thereto defined upon an exterior surface of said tubular body; and
 - 10 a port member having a housing with a generally cylindrical valve rotatably positioned therein, said rotatable valve having an open end, a closed end and an orifice proximate said closed end, said body being rotatable about its central axis between an open position and a closed position; said valve further having a longitudinal groove defined along an interior surface thereof capable of being in registry with said needle protrusion, said groove coincident with said protrusion for intussusception of said protrusion therein such that rotation of said needle effects rotation of said valve between said open and closed positions.
- 15 2. The valve port system of claim 1 wherein said conduit lies adjacent said valve so as to ensure relatively frictionless rotation said valve relative to said conduit.
- 20 3. The valve port system of claim 2 wherein said conduit has an opening proximate said closed end of said valve.
4. The valve port system of claim 3 wherein said orifice is in fluid communication with said conduit opening in said open position.
- 25 5. The valve port system of claim 3 wherein fluid communication between said conduit opening and said orifice is precluded in said closed position.
6. The valve port system of claim 1 wherein said bevel opening is in alignment with said orifice.

7. The valve port system of claim 6 wherein protrusion is located proximate said bevel opening.

5 8. The valve port system of claim 7 wherein said protrusion is located in semi-circumferential relationship relative to said bevel opening.

9. The valve port system of claim 1 wherein said bevel opening conforms to said orifice.

10 10. The valve port system of claim 1 wherein said engagement member further includes a gripping member at said proximal end.

15 11. The valve port system of claim 10 wherein said gripping member has a plurality of tactile indicia defined thereabout to facilitate gripping and torquing of said engagement member.

12. The valve port system of claim 10 wherein said gripping member further includes a turn knob defined thereon.

20 13. The valve port system of claim 12 wherein said turn knob includes indicia to indicate rotation of said valve between said open and closed positions.

14. A rotatable valve for subcutaneous use in fluid transfer procedures in an implantable housing member, said valve comprising:

25 a generally cylindrical body having an open end, a closed end and an orifice proximate said closed end, said body being rotatable about its central axis between an open position and a closed position;

a longitudinal groove defined along an interior surface of said cylindrical body; wherein said groove is capable of being in registry with an engagement member, said groove

being coincident with said engagement member for intussusception of said engagement member therein such that rotation of said engagement member effects rotation of said valve between said open and closed positions.

5 15. The rotatable valve of claim 14 wherein said valve is rotatably housed in a subcutaneously implanted port member.

10 16. The rotatable valve of claim 14 wherein a subcutaneously implanted fluid flow conduit lies adjacent said valve so as to ensure relatively frictionless rotation said valve relative to said conduit.

17. The rotatable valve of claim 16 wherein said conduit has an opening proximate said closed end of said valve.

15 18. The rotatable valve of claim 17 wherein said orifice is in fluid communication with said conduit opening in said open position.

19. The rotatable valve of claim 17 wherein fluid communication between said conduit opening and said orifice is precluded in said closed position.

20 20. The rotatable valve of claim 14 wherein said groove maintains alignment of said engagement member with said orifice.

25 21. An extractable engagement member for establishing percutaneous vascular access to a patient during a fluid transfer procedure, comprising:

 a tubular body having a proximal end, a distal end and a tubular lumen therebetween, said distal end having a tapered bevel defined thereat and a tapered protrusion proximate thereto defined upon an exterior surface of said tubular body;

wherein a longitudinal groove coincident with said protrusion is capable of being in registry therewith, such that intussusception of said protrusion in said groove prevents extraction of said engagement member from said groove during a fluid transfer procedure.

5 22. The engagement member of claim 21 wherein said protrusion has a generally parabolic profile.

23. The engagement member of claim 21 further comprising a grippable handle at said proximal end.

10 24. The engagement member of claim 23 wherein said handle includes tactile indicia thereabout to facilitate gripping by a user.

15 25. The engagement member of claim 23 wherein said handle further includes a turn knob defined thereon.

26. The engagement member of claim 25 wherein said turn knob includes indicia to indicate rotation of said valve between said open and closed positions.

20 27. The engagement member 21 wherein said protrusion is located proximate said bevel opening.

28. The engagement member of claim 27 wherein said protrusion is located in semi-circumferential relationship relative to said bevel opening.

25 29. The engagement member of claim 21 wherein said bevel opening conforms to said orifice.

30. A method for providing percutaneous vascular access to a patient, comprising the steps of:

providing a valve port system, said system comprising:

5 an extractable engagement member defined by a tubular body having a proximal end, a distal end and a tubular lumen therebetween, said distal end having a tapered bevel with an opening defined thereat and a tapered protrusion proximate said distal end defined upon an exterior surface of said tubular body; and

10 a port member having a housing with a generally cylindrical valve rotatably positioned therein, said rotatable valve having an open end, a closed end and an orifice proximate said closed end, said body being rotatable about its central axis between an open position and a closed position; said valve further having a longitudinal groove defined along an interior surface thereof capable of being in registry with said protrusion, said groove coincident with said protrusion for intussusception of said protrusion therein such that rotation of said needle effects rotation of said valve between said open and closed positions;

15 subcutaneously implanting said port member in combination with a fluid flow conduit adjacent said valve;

percutaneously inserting said engagement member into said valve such that said protrusion is in registry with said groove;

20 inserting said engagement member further toward said closed end of said valve so that said groove intussuscept said protrusion therein; and

rotating said needle so as to effectively rotate said valve between said open and closed positions.

25 31. The method of claim 40 wherein said orifice is in fluid communication with said conduit in said open position.

32. The method of claim 30 wherein fluid communication between said orifice and said conduit is precluded in said closed position.

33. The method of claim 30 further comprising the step of aligning said engagement member with said port opening prior to said percutaneous insertion step.

5 34. The method of claim 31 wherein said percutaneous insertion step is performed until said engagement member fully engages said valve.

35. The method of claim 31 wherein said rotation step is performed along an arced distance sufficient to completely establish or negate fluid flow between said conduit and said valve.

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36. The method of claim 31 wherein said engagement member is locked in said valve.

37. The method of claim 31 wherein said orifice is rotatably alignable with said conduit.

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